FY 1996/1997 REGIONAL SOLID WASTE GRANTS PROGRAM

SELECTED PROJECT EXAMPLES

Provided to Councils of Governments by the
Texas Natural Resource Conservation Commission

SELECTED PROJECT EXAMPLES

This guidance document is provided to Councils of Governments (COGs) by the Texas Natural Resource Conservation Commission (TNRCC) to assist in the administration of the FY 96-97 solid waste grant program.

This guidance document contains several selected "real-life" examples of successful projects around the state. Examples are provided for each of the five grant categories. We highly encourage you to provide these project examples to all of your applicants, in order to better promote the submittal of quality project proposals.

If you have any questions or need additional information, please contact the TNRCC planner assigned to your region.

Category 1: Waste Reduction and Recycling

Category Description:

> *Projects which provide a direct and measurable effect on reducing the amount of waste going into landfills, by diverting various materials from the municipal solid waste stream for beneficial use, or by reducing waste generation at the source.*

Example A. Variable Rate MSW Collection

Variable rates, sometimes called "pay as you throw," charge residents according to the quantity of waste they throw away. Charging higher fees for increasing quantities of waste encourages households to cut back on their waste both by participating in recycling programs and reducing waste at home. Various methods can be used in a variable rate system, including bag-based systems, sticker-based systems, variable can size systems, and weight-based systems.

ENTITY: City of Weimar

POPULATION SERVED: 2,100

CONTACT: Frank Parks, City Manager
P.O. Box 67
Weimar, TX 78962
409/725-8554 (FAX: 409/725-8488)

PROJECT DESCRIPTION

The City of Weimar has a variable rate structure for residential garbage service. Among the many options from which to choose, Weimar collects only "official" bags from its residents. Marked with the city seal, these bags are purchased through the Cooperative Purchasing program managed by the Houston-Galveston Area Council.

The variable rate system established by the City of Weimar involves distributing 9 garbage bags for $11.15 per month per household, including tax, and selling additional bags for $1.15 each to cover the cost of collecting and disposing of the additional bag of trash.

The City manages a recycling drop-off and processing center at its waste transfer station. The City also promotes home use of yard trimmings to reduce household waste.

BUDGET ITEMS

1. Staff time to develop variable rate system, develop contracts, procure bags (or other containers) and supplies, collect and report data
2. Travel related to developing variable rate program
3. Contractual or "other" expenses for:
    - consulting to determine rate structure for proposed variable rate system
    - signage
    - develop, produce, and distribute public education materials describing the variable rate system and promoting Precycling, household recycling, Don't Bag It, and backyard composting
    - bags (where variable-size cans may be provided for garbage collection, TNRCC recommends that only the smaller size containers be eligible for funding)

MAJOR STEPS IN PROJECT

1. Contract with consultant to determine rate structure for proposed variable rate system
2. Purchase bags through GSC's Cooperative Purchasing program
3. Develop public education materials describing the variable rate system and promoting Precycling, household recycling, Don't Bag It, and backyard composting
4. Adjust billing system
5. Distribute bags and educational materials and kick off new program
7. Set up system to collect data on waste reduction and cost savings and monitor results

PROJECT EFFECTIVENESS

The City of Weimar program has not been in operation a sufficient time to measure resulting waste diversion.

Example B. Recycling Dropoff Center

A dropoff center consists of collection containers or compartmentalized trailers labeled for various categories of recyclables located at sites frequented by the public such as shopping centers, schools, churches, recycling processing facilities, and disposal facilities. Dropoff centers are the most frequently used method of recovering recyclable materials in Texas. Public education activities to increase participation may include signs, brochures, posters, door hangers, utility bill stuffers, magnets, bumper stickers, and advertisements in the local media. Materials typically accepted and processed are newspapers, glass containers, plastic bottles, steel cans, and aluminum cans, although other materials, such as corrugated containers, magazines, high-grade waste paper, mixed office paper, yard trimmings, and used motor oil, also can be collected and processed.

ENTITY: City of Panhandle

POPULATION SERVED: 2,500

CONTACT: John Kiehl
Panhandle Regional Planning Commission
P.O. Box 9257
Amarillo, TX 79105
806-372-3381 (FAX: 806/373-3268)

PROJECT DESCRIPTION

The City of Panhandle's recycling dropoff center offers a convenient recycling dropoff option to its citizens. The dropoff center is housed in an 800-square foot modular building near the center of town. Citizens park their vehicles in front of the building and unload their recyclables into about ten 2-cubic yard dumpsters. Utilizing the efforts of one, part-time employee, the city is able to recycle glass containers, plastic containers (#1 and #2), aluminum and steel cans, cardboard, white ledger, computer paper, and newspaper. The facility uses a separator/flattener to process aluminum cans. A private company collects, processes, and markets materials from several similar dropoff centers using a side-loading compactor truck to collect material from bins. This arrangement eliminates the need for the city to market each material type separately and greatly reduces the city's storage requirements for materials awaiting transport to market.

BUDGET ITEMS

1. Staff to develop contracts, oversee and construct facility, procure containers and supplies, collect and report data
2. Travel for training specific to designing and operating a drop-off center, marketing materials, and coordinating a public education campaign
3. Equipment and containers, including pallet jack; can separator/flattener; dropoff containers such as 2- or 3-yard dumpsters; igloo containers; collection trailer
4. Contractual or construction expenses for design of facility, site preparation, such as concrete surfacing and fencing, and facility construction or improvements, such as ramp or loading dock
5. Contractual or "other" expenses for signage, advertising, brochures

MAJOR STEPS IN PROJECT

1. Contract for the design and construction of the facility
2. Write bid specifications for vehicles, equipment, containers, and signs
3. Invite and award bids
4. Develop and print educational brochures
5. Accept delivery of vehicles, equipment, containers, and signs and install equipment
6. Distribute brochures, and announce operation with public awareness campaign
7. Set up system to collect data on waste reduction and cost savings and monitor results

PROJECT EFFECTIVENESS

The dropoff center receives an average of 312 visits from customers per month. Through the efforts of these citizens last year, the City of Panhandle was able to recycle approximately 220 tons, or 176 pounds per person, approximately 14% of its waste stream.

Example C. Recycling Processing Center

A processing facility, sometimes referred to as a material recovery facility ("MRF"), is a facility for sorting and processing source-separated or commingled recyclable materials for transport off-site for reuse or recycling. Typically, processing consists of separation, densification, and packaging to prepare materials for efficient transport to market and assure material quality for market. Materials typically accepted and processed are newspapers, glass containers, plastic bottles, steel cans, and aluminum cans, although other materials, such as corrugated containers, magazines, high-grade waste paper, mixed office paper, and yard trimmings also can be collected and processed.

ENTITY: City of Fredericksburg

POPULATION SERVED: 7,500

CONTACT: Russell Immel, Engineering Technician
P.O. Box 111
Fredericksburg, TX 78624
210/997-7521 (FAX: 210/997-1861)

PROJECT DESCRIPTION

The City of Fredericksburg's recycling dropoff center combines dropoff convenience to its citizenry with processing efficiency. The dropoff/processing center is housed in a building approximately 4,000 square feet, near the center of town. The building is warehouse space with a high ceiling and a small section of office space in one corner. Citizens are able to drive through the building to deliver their recyclable materials. Utilizing the efforts of two, full-time employees, the city is able to recycle glass containers, plastic containers (#1 and #2), aluminum and steel cans, cardboard, white ledger, computer paper, and newspaper. Equipment in the facility includes a vertical baler, a glass crusher; a fork lift; and several Gaylord containers. A private processing/marketing company places a 40-foot trailer and empty Gaylord boxes and pallets at the center. City employees place Gaylord boxes full of recyclable materials and bales into the trailer on an ongoing basis. When the trailer is full, the private recycler picks it up, exchanging an empty trailer for the full one. This arrangement eliminates the need for the City to market each material type separately and greatly reduces the city's storage requirements for materials awaiting transport to market.

BUDGET ITEMS

1. Staff expense to develop contracts, oversee and construct facility, procure equipment and supplies, collect and report data
2. Travel for training specific to operating a processing center, marketing materials, and coordinating a public education campaign
3. Equipment, including vertical baler; pallet jack; fork lift; glass crusher; can separator/flattener; dropoff containers such as 2- or 3-yard dumpsters; igloo containers; forklift; skidsteer loader; compactor; plastic perforator/flattener; collection trailer
4. Contractual or construction expenses for design of facility, site preparation, such as concrete surfacing and fencing, and facility construction or improvements, such as ramp or loading dock
5. Contractual or "other" expenses for signage, advertising, brochures

MAJOR STEPS IN PROJECT

1. Contract for the design and construction of the facility
2. Write bid specifications for vehicles, equipment, and signs
3. Invite and award bids for the purchase of vehicles, equipment, and signs
4. Develop and print educational brochures
5. Accept delivery of vehicles, equipment, and signs and install equipment
6. Distribute brochures, and announce operation with public awareness campaign
7. Set up system to collect data on waste reduction and cost savings and monitor results

PROJECT EFFECTIVENESS

Through its dropoff center and a metals recycling program at its landfill, the City of Fredericksburg has been able to recycle approximately 9% of its waste stream. In 1994, this amounted to more than 700 tons, or 187 pounds per person, of recyclable material from the dropoff center and 400 tons of scrap metal at the landfill.

Example D. Curbside/Alleyside Recycling Collection

A curbside/alleyside recycling collection program consists of the organized use of a vehicle which may include a customized trailer to collect recyclables and/or compostables from households on a regular basis. Typically, easily identifiable containers are used by residents to store and transport recyclables to the point of collection. Curbside recycling programs and some alleyside programs utilize 12- to 18-gallon plastic bins, rolling carts, or plastic bags for this purpose. Some alleyside programs use semi-automated carts from 30-100 gallon capacity, 2- to 6-cubic yard dumpsters or specialized dropoff containers. Once materials are collected, they are transported via the collection vehicle to a processing center or directly to an end market. Materials typically collected are newspapers, glass containers, plastic bottles, steel cans, and aluminum cans, although other materials, such as corrugated containers, magazines, mixed waste paper, and yard trimmings can also be collected. Public education activities will increase participation.

ENTITY: City of Lake Jackson

POPULATION SERVED: 7,400 households

CONTACT: Robert Stark, Solid Waste Superintendent
City of Lake Jackson
25 Oak Drive
Lake Jackson, TX 77566-5289
409/297-2481 (FAX: 409/297-9804)

PROJECT DESCRIPTION

The City of Lake Jackson provides all of its single family households with weekly curbside recycling service. Residents are asked to set out their materials as follows: clear, brown, and green glass containers, #1 and #2 plastic containers, aluminum and steel cans, and empty aerosol cans set out in a 33-gallon translucent blue bag; newspapers, magazines, and junk mail set out in an open-ended paper or plastic bag; and corrugated cardboard flattened and stacked beside the other materials. City crews driving a two-compartment, rear-loading, compactor truck place paper materials in one compartment and blue bags in the other. Materials are processed at a privately operated material recovery facility.

BUDGET ITEMS

1. Staff expense to develop contracts, procure vehicles, equipment and supplies, collect and report data
2. Travel for training specific to operating a curbside recycling program, marketing materials, and coordinating a public education campaign
3. Equipment including collection vehicles or trailers
4. Contractual expenses for writing vehicle specifications
5. Contractual or "other" expenses for household containers (e.g., bins or bags), advertising, brochures

MAJOR STEPS IN PROJECT

1. Write bid specifications for vehicles and household containers
2. Invite and award bids for the purchase of vehicles and household containers
3. Develop and print educational brochures
4. Accept delivery of vehicles and containers
5. Distribute brochures and containers, and kickoff public awareness campaign
6. Set up system to collect data on waste reduction and cost savings and monitor results

PROJECT EFFECTIVENESS

In 1994, more than 1,300 tons, or about 140 pounds per person of curbside recyclables were collected and recycled. The monthly participation rate was 40%.

Example E. Multi-Family Recycling Collection

The relatively high population density in multi-family areas in itself often lends to the practicality of recycling efforts, however this segment of the population is frequently underserved in many communities. Multi-family residents take their recyclables to central drop-off points, usually dumpsters at designated sites. Providing residents with household collection bins helps increase participation, as well as encouragement from property management.

ENTITY: City of Lake Jackson

POPULATION SERVED: 1,923 households in 14 apartment complexes

CONTACT: Robert Stark, Solid Waste Superintendent
City of Lake Jackson
25 Oak Drive
Lake Jackson, TX 77566-5289
409/297-2481 (FAX: 409/297-9804)

PROJECT DESCRIPTION

The City of Lake Jackson provides recycling collection service to all of its multi-family residents. Apartment complexes have mini-dropoff centers on site. A minimum of two clearly labelled three-cubic yard dumpsters are placed in apartment complex parking lots. Residents are asked to place commingled containers in separate dumpsters from paper materials. Commingled containers accepted by the program include clear, brown, and green glass containers, #1 and #2 plastic containers, aluminum and steel cans, and empty aerosol cans. Paper materials accepted include newspapers, magazines, junk mail, and flattened and stacked corrugated cardboard. The materials are collected by city crews in single-compartment, rear-loading, compactor trucks which run separate routes for paper materials and commingled containers. Materials are taken to a privately operated material recovery facility for sorting.

BUDGET ITEMS

1. Staff expense to develop contracts, procure vehicles and supplies, collect and report data
2. Travel for training specific to operating a multifamily recycling program, marketing materials, and coordinating a public education campaign
3. Equipment including collection vehicles or trailers
4. Contractual expenses for writing vehicle specifications
5. Contractual or "other" expenses for household containers (e.g., bins or bags), advertising, brochures

MAJOR STEPS IN PROJECT

1. Write bid specifications for vehicles, dumpsters, and household containers
2. Invite and award bids for the purchase of vehicles, dumpsters, and household containers

3. Develop and print educational brochures
4. Accept delivery of vehicles, dumpsters, and containers
5. Distribute brochures and containers, and kickoff public awareness campaign
6. Set up system to collect data on waste reduction and cost savings and monitor results

PROJECT EFFECTIVENESS

In 1994, more than 85 tons, or about 31.5 pounds per person of recyclables were collected and recycled.

Example F. "Don't Bag It" Project

The Texas Agricultural Extension Service's "Don't Bag It" educational program promotes leaving grass clippings on lawns. An effective program usually involves public meetings, demonstration lawns, a speakers bureau and educational materials.

ENTITY: City of Plano

POPULATION SERVED: 165,000

CONTACT: Nancy Nevil, Solid Waste Manager
P.O. Box 860358
Plano, TX 75086-0358
214/964-4104

PROJECT DESCRIPTION

In Plano, yard trimmings account for 18 to 20 percent by weight of the total annual residential waste stream. The City has implemented a comprehensive yard trimmings management program than includes "Don't Bag It" (DBI), backyard composting, and centralized composting. One of the first cities to implement the DBI program, Plano worked with their County Extension Agent. Together they produced a public information campaign, taught seminars citywide using existing Texas Agricultural Extension (TAEX) slide shows, had a promotional campaign with a mulching mower, donated by a local hardware store, as the prize, and established five DBI demonstration lawns.The City has continued the program without TAEX support. It promotes the program through educational materials (utility bill inserts) distributed in March with utility bills, the distribution of brochures at all citywide cleanups, a backyard composting demonstration site, Earth Day events and environmental fairs. In addition, DBI is promoted in the biannual *Environmental Newsletter* sent to all Plano residents.

BUDGET ITEMS

1. Staff
2. Public information materials, including brochures, utility bill inserts, door hangers, bumper

stickers, and posters
3. Signage for demonstration lawns and sites
4. Advertisements in local media
5. Demonstration site development

MAJOR STEPS IN PROJECT

1. Work with County Extension Agent to plan promotion and education program
2. Adapt TAEX educational and promotional materials for use locally
3. Seek local sponsorships for promotional campaign
4. Implement a public awareness campaign
5. Recruit homeowners for demonstration lawns
6. Conduct training seminars
7. Provide for continuing education and promotion
8. Set up a system to measure DBI waste reduction/monitor results

PROJECT EFFECTIVENESS

From 1991 to 1992, DBI was the only yard trimmings management program implemented. During that year, Plano achieved a 28 percent reduction in yard trimmings collected.

Example G. Backyard/On-Site Composting

On-site composting includes mulching and other on-site uses of leaves, brush, grass clippings and other vegetative material. On-site composting can be conducted at individual homes, a multi-family complex or at a commercial or institutional location. A strong public education campaign will increase participation.

ENTITY: City of Plano

POPULATION SERVED: 165,000

CONTACT: Cynthia Connor, Master Composter Coordinator
P.O. Box 860358
Plano, TX 75086-0358
214/964-4104

PROJECT DESCRIPTION

In order to implement backyard/on-site composting, Plano initiated its highly successful Master Composter program in 1993. To date, 72 volunteer Master Composters have been trained and are working to educate and encourage Plano residents to compost in their own yards.
Upon receiving a grant in 1993, Plano hired Howard Stenn, a national expert to develop and teach their first class. In addition, Mr. Stenn worked with the City to produce a Plano specific training

manual for the volunteers and developed a design for a backyard composting demonstration site.

Graduates of the first class, along with city staff, built the demonstration site as a outreach teaching tool designed to provide citizens with a hands-on-approach to viewing and building compost piles. Plano's site is located at the Solid Waste Department and displays 10 different types of backyard composting bins and piles. Information about the bins and how to compost are available at the site and a self-guided tour has been developed. Scheduled tours, by Master Composters or the Compost Coordinator, are also available to schools, clubs and other interested groups.

After their first year, Plano expanded their program to include a fall and spring training session. Flyers promoting the training are distributed to area nurseries, neighborhood associations, garden clubs, and other organizations and Plano's cable channel runs PSA's. The City contracted with a consultant, Mr. Larry Wilhelm, Master Composter Instructor from the City of Grapevine, to teach their sessions. Each session follows the TNRCC-approved curriculum and includes both classroom and hands-on technical instruction in pile building and vermicomposting. Participants are provided with a customized training manual and a free composting bin. Upon completion of the course, the volunteers are requested to accomplish 40 hours of outreach services to the City. Master Composter volunteers have donated approximately 550 hours in outreach services by May 1995.

In the fall of 1994, Plano hired a part-time Backyard Compost Coordinator to increase the productivity of their program. As the coordinator organized and developed curriculum for presentations, established monthly meetings and developed a monthly "Compost Matters" newsletter, the percentage of outreach hours increased approximately 50%. The coordinator developed an array of communication tools to support the volunteers, such as composting publications, an exhibit board, a stage and puppet show, a traveling worm bin and compost bin, and other educational tools.

Outreach efforts were expanded by the coordinator to include local schools and youth clubs. One elementary school initiated a vermicomposting project to process the cafeteria's vegetative materials, while educating and raising the student's environmental awareness. The school is diverting 8 pounds of vegetative materials a week. With the elementary school serving as a model for other schools, the Plano Independent School district hopes to divert 10,000 pounds of food materials each year at little cost and producing a valuable product, compost, to be used by the schools.

Plano reports that last year Master Composters gave 48 presentations to schools, adult and youth organizations. Fifteen schools toured the demonstration site and Master Composters performed outreach at all the citywide cleanup days, Earth Day Events and several environmental fairs. Plano estimates that 22,000 citizens received information on composting.

The City has worked extensively to get news coverage by the media of their program. Articles on the Master Composter Program, the Backyard Composting Demonstration site, and the school vermicomposting program have been printed by two major Metroplex newspapers. Plano Television Network and Plano Cable TV ran several informational composting programs and did an interview with the Backyard Compost Coordinator and several Master Composters that reached 43,000 households.

BUDGET ITEMS

1. Staff
2. Contractual services for technical assistance and training
3. Training materials (manuals can be obtained at no charge from TNRCC)
4. Public education materials, such as signs, brochures, door hangers, posters, and utility bill inserts
5. Compost bins and thermometers
6. Signs

MAJOR STEPS IN PROJECT

1. Obtain Master Composter training for staff
2. Coordinate and/or contract for training for volunteers
3. Recruit volunteers
4. Plan and implement a broad public outreach campaign
5. Revise existing outreach and educational materials for local use
6. Order educational supplies, such as compost bins and thermometers
7. Order promotional supplies, such as posters, bumper stickers, magnets
8. Select and build demonstration sites
9. Coordinate volunteer portion of Master Composter training
10. Set up a system to collect data/monitor results

PROJECT EFFECTIVENESS

The City believes their source reduction programs account for a significant portion of the 15% of waste that has been diverted from the solid waste stream by its comprehensive yard trimmings management program. In addition to diversion of organic materials, backyard composting has helped to generate positive interest and raise compost awareness. This program also helps promote Plano's centralized composting program and create markets for their municipal compost.

Example H. Centralized Composting

Centralized composting processes yard trimmings and other source-separated organic materials for which no permit is required under the proposed TNRCC rules. The finished mulch or compost product must be used for beneficial reuse, such as various agricultural, horticultural, and land reclamation applications in reliable and sustainable end markets. Public education activities must be included to increase participation.

ENTITY: City of Plano

POPULATION SERVED: 165,000

CONTACT: Nancy Nevil, Solid Waste Manager
P.O. Box 860358
Plano, TX 75086-0358
214/964-4104

PROJECT DESCRIPTION

Weekly collection of yard trimmings (grass clippings, leaves, brush, tree trimmings and clean wood waste) is currently provided to 47,605 homes. Last year, approximately 10,497 tons of yard trimmings were collected, or an average of about 465 pounds of yard trimmings per household annually. For collection, residents must place their grass clippings, leaves and small brush in city-designated, biodegradable Kraft paper bags. The bags can be purchased at any Plano Fire Station at a cost of $5 for 20 bags. Oversized woody materials must be tied in bundles and placed at the curbside for collection. Christmas trees are also collected at curbside and added to the composting process.

Collected yard trimmings are diverted from the landfill and delivered instead to Plano's municipal composting facility where they are converted into a nutrient-rich soil amendment. The program is part of an integrated solid waste plan that includes the weekly collection of garbage, recyclable materials and yard trimmings.

In addition to the existing residential yard trimmings collection program, the City will soon be prepared to accept commercially generated compostable materials at its compost facility.

Compost Site, Equipment and Personnel: The compost facility began full scale operation in June 1992 on previously undeveloped, City-owned park land. Located in a rural area 1.5 miles away from the nearest residence, the 6-acre site has not experienced problems with odor. The site is operated without a compost pad, and there is presently no water available to the site.

Purchased processing equipment includes a Scarab windrow turner (approximately $183,000), a designated front end loader, and a Maxigrind grinder (approximately $169,000). A Powerscreen is rented twice a year at a cost of $2,500 to $3,000 per week. An additional front end loader is rented annually at a cost of $1,880 per month. Materials are windrowed and screened prior to distribution. Approximate turnaround time for finished compost is expected to be 90 days.

Compost Markets: The City uses the finished compost to landscape city parks and other city-owned property. It is provided to citizens free of charge for their own landscape projects. The City is investigating the possibility of marketing the final product to nurseries, landscape companies and soil additive manufacturers.

Program Costs: Plano's compost program costs about $300,000 per year, including all departmental and city overhead. Citizens are charged $11.57 per month for solid waste services. Cost per ton for composting in Plano in 1993-94 was $21.44 per ton, compared to the landfill cost of $23 per ton to landfill.

BUDGET ITEMS

1. Staff
2. Contractual services for technical assistance or training
3. Equipment for collection and composting, such as chipper, screen, grinder, and windrow turner
4. Supplies such as Kraft bags
5. Construction for site improvements, such as a pad, fencing, or lighting
6. Public education materials and advertising

MAJOR STEPS IN PROJECT

1. Provide centralized compost training for compost managers
2. Plan yard trimmings collection and a public education campaign to support it
3. Develop public educational materials and distribute
4. Select a compost site and plan and contract for site improvements, including water
5. Develop equipment specifications, invite bids and select vendors
6. Provide training for collection staff and compost operators
7. Plan for marketing compost
8. Begin mulching and composting operation
9. Set up a system to collect data on waste reduction/costs and monitor results

PROJECT EFFECTIVENESS

City figures show that since the inception of its yard trimmings collection program, 11.6 percent of its total solid waste stream is diverted from the landfill through composting alone.

Example I. Centralized Composting with Biosolids

Note: Grant funding may not be provided for any activity or facility requiring a permit. Under proposed TNRCC regulations, composting with biosolids will no longer require a permit, only registration. However, until such time as these new regulations officially go into effect, composting with biosolids still requires a permit. Therefore, applicants and COGs will need to consider this timing issue when considering projects involving composting with biosolids.

Centralized composting, as described under Model H, may also include the processing of biosolids, such as wastewater treatment plant sludge.

ENTITY: City of Austin

POPULATION SERVED: 126,500 single-family residences

CONTACT: Jody Slagel, Compost Manager
Water and Wastewater Utlity
P.O. Box 1088
Austin, TX 78767
512/929-1016 (FAX: 512/929-1004)

PROJECT DESCRIPTION

The City of Austin began its co-composting operation on land adjacent to its wastewater treatment facility. An area of 7.5 acres was paved to serve as a compost pad. The pad was later increased to 15 acres. Biosolids were mixed with wood chips supplied by the City's tree service contractor from trimmings near utility lines and in public rights-of-way. In 1993, Austin started residential curbside collection of yard trimmings as part of its "Pay-As-You-Throw" program. Yard trimmings collection will be citywide in October, 1995, and by January, 1996, the City plans to collect all yard trimmings in Kraft bags to eliminate problems in debagging organic materials from plastic bags.

Yard and tree trimmings are ground and mixed with dried biosolids and spread in windrows. The windrows are turned periodically with a Scarab windrow turner. Compost time for materials in the summer is approximately 30 days, and in the winter is 45 days or more. The finished compost is screened, using a 16 x 6 ft. Trommel power screen with a 3/8" screen, and then the finished compost cures for varying periods.

Austin's compost is applied to City parkland and greenbelts, thereby reducing costs for chemical fertilizers and water for these areas. More than 90% of the compost is marketed as "Dillo Dirt," which is sold through registered vendors. These vendors must pay a $200 registration fee and take a minimum of three cubic yards per order at $7 per cubic yard. The demand for "Dillo Dirt" has consistently exceeded the supply.

BUDGET ITEMS

1. Staff
2. Equipment for collection and composting, such as grinder, windrow turner, screen, and front-end loader
3. Construction of paved surface for compost pad
4. Public education materials and advertising

MAJOR STEPS IN PROJECT

1. Identify sources of yard trimmings, organic vegetative materials, wood chips, and biosolids
2. Develop a collection system
3. Test biosolids for prohibited substances, primarily PCBs and heavy metals
4. Develop a method of drying and transporting biosolids
5. Prepare a compost site as close to the wastewater treatment facility as possible
6. Design materials flow

7. Assess markets and develop marketing plan
8. Bid, purchase, and install equipment
9. Begin composting operation

PROJECT EFFECTIVENESS

Annually, Austin collects and composts an estimated 60,000 cubic yards, 15,000 tons of yard and tree trimmings, which is approximately 10% diversion from the City's solid waste stream. By composting biosolids, the City avoids the regulatory process associated with land application of biosolids and generates revenue rather than paying disposal and land monitoring costs.

Example J. Mulching/Chipping Project

Mulching and chipping are similar processes in which various sizes and textures of useful cover material are produced through the shredding or grinding of woody material. Mulch and wood chips are used extensively in horticulture as a means of controlling soil moisture and weeds, as well as providing a decorative finish in landscaping. Mulching and chipping operations can significantly reduce the amount of overall waste going into most landfills, as well as generate revenues from a marketable product.

ENTITY: City of Corpus Christi

POPULATION SERVED: 250,000

CONTACT: Estela Garcia, Waste Reduction Manager
P.O. Box 9277
Corpus Christi, TX 78469-9277
512/857-1970

PROJECT DESCRIPTION

Yard trimmings account for approximately 20% of all the solid waste that is being collected and deposited in the city-owned J.C. Elliott Landfill. The City of Corpus Christi Solid Waste Services Department collects garbage and trash twice a week from city residents. There are 35 pickup routes that service 68,900 residences. An average of 11,000 tons of garbage are collected each day.

The City actively facilitates the reduction and recycling of organic materials through a multi-pronged approach, including the "Don't Bag It" program, backyard compost demonstration gardens, Master Composter volunteers, Christmas tree recycling, and brush collection. Heavy brush is collected from residences on a continuous rotating basis throughout the city. Areas are covered approximately every six to eight weeks.

Crews collect light brush every other Wednesday. Light brush is defined as branches (under 5 feet in length) and grass clippings. Branches must be placed in a container or tied in a bundle, and grass clippings must be in a container or plastic bag. Information on brush pick-up is published in Saturday issues of the Caller-Times, included in seasonal utility bill insert newsletters, and/or may be obtained through the City's hotline at 512/857-1969.

Collected brush is transported to the J.C. Elliott Landfill, where it is stockpiled with pallets and untreated lumber prior to processing.

The material is eventually converted into mulch at the landfill with equipment owned by Sabine Environmental, Inc., a company with which Coastal Bend Council of Governments contracts to provide grinding services to Corpus Christi and communities in the surrounding 12-county region. Through this unique COG-managed program, the size of the community determines the number of days the mobile grinder will spend processing wood in each community.

Wood chips are being distributed free of charge to any city resident at the J.C. Elliott Landfill. Citizens are required to load their own wood chips and are encouraged to use the wood chips for residential landscaping projects or gardens. In addition, the City of Corpus Christi also used the wood chips to mulch garden areas and create pathways in City-owned parks and golf courses, and as a carbon source in compost piles located at the compost demonstration gardens.

BUDGET ITEMS

1. Staff
2. Public information materials
3. Equipment for collection of unprocessed materials and distribution of final product on City-owned lands
4. Contractual grinding service administered by the COG

MAJOR STEPS IN THE PROJECT

1. Develop a collection system and educate citizens as to the proper set-out procedures for the collection of brush
2. Review landfill permit and contact TNRCC MSW Division regarding any needed adjustments to the landfill permit
3. Establish area at landfill to stockpile and grind brush and to distribute wood chips
4. Coordinate with COG for grinding services
5. Establish grinding schedule
6. Collect brush and transport to landfill
7. Educate citizens and City departments as to the benefits of using mulch in landscaping and its availability
8. Provide mulch to citizens and City departments

PROJECT EFFECTIVENESS

The City of Corpus Christi believes that the wood mulching program is an integral part of the overall goal to the amount of yard trimmings entering the landfill, diverting 13,500 cubic yards of brush per month from the landfill.

Example K. Recycling Marketing Cooperative

Establishing cooperative organizations or agreements to allow public entities within a geographic region to pool recovered materials to achieve larger quantities to better access markets. The cooperative organization or agreement may involve contracting with end-markets, agreements between entities for collection/processing, and establishment of regional collection/aggregation points for material.

ENTITY: Southwest Public Recycling Association (SPRA)

Note: Under this grant program, private and non-profit entities are <u>not</u> directly eligible to receive grant funding. However, a local government or other eligible applicant may contract with such entities to provide services.

POPULATION SERVED: West Texas (86-county area)

CONTACT: Gary J. Olson, Executive Director
P.O. Box 27210
Tucson, AZ 85726
602/791-4069

Larry Shroyer, West Texas Manager
P.O. Box 60145
Midland, Texas 79711
915/563-1918

PROJECT DESCRIPTION

The Southwest Public Recycling Association (SPRA) is a non-profit membership organization based in Tucson, Arizona with satellite offices in Colorado, New Mexico, Utah, and Texas. SPRA was formed in 1991 and opened its newest office in Midland, Texas in early 1995. The mission of SPRA is to develop and strengthen recycling markets in the region through cooperative marketing, buy-recycled programs, and recycling economic development programs.

The cooperative marketing program consists of master contracts that SPRA has negotiated with reliable end-markets on behalf of members. SPRA is able to negotiate better prices and terms with end-markets based upon the potential volume of material that is can offer from its members. Features of the program are:

- SPRA manages the scheduling, transportation , billing and payments
- Members choose to market specific commodities by signing a one year marketing agreement
- Competitive prices and market indicators for price changes
- Guaranteed acceptance of materials
- Guaranteed long-term contracts (2 - 5 years)
- Various transportation options, including less than truckload

In addition to offering access to competitive markets and coordination of transportation, SPRA offers assistance to members in arranging split loads or "milk-run" pick-up of material from multiple locations. In some of the geographic area covered by SPRA, regional aggregation and processing centers have been established among members to allow materials to be aggregated and processed as needed to reach the quantity and quality levels required of the end-market contracts.

BUDGET ITEMS

1. Personnel/Salaries (to coordinate marketing contracts and transportation)
2. Travel (within the cooperative marketing region)
3. Supplies (general office supplies)
4. Equipment (start-up office equipment)

MAJOR STEPS IN PROJECT

1. Establish and set up office location in West Texas
2. Assist and support recycling efforts in West Texas
3. Provide technical assistance with recyclable material marketing to programs in West Texas
4. Cooperative Marketing Program Recruitment:
    - contact existing recycling programs
    - provide assistance to planned recycling projects
    - on-going recruitment through workshops
5. Develop efficient transportation options
6. Operate cooperative marketing program:
    - shipping arrangements and scheduling
    - invoicing and disbursements of revenue
    - tracking of materials
7. Support and promote "buy-recycled" efforts in the state
8. Encourage recycling economic development

PROJECT EFFECTIVENESS

As an example of SPRA's ability to reduce waste in the region, a rail shipment of 90 tons of glass cullet from San Angelo was coordinated through SPRAs transportation and end-market contracts to Coors Glass in Colorado. The material had accumulated at a recycling facility in San Angelo because the recycler did not have access to a market that would make the shipment economical.

Example L. Public Workplace Recycling

Activities to implement or expand programs to reduce waste and to collect, handle, and reuse or recycle waste from within public facilities. Activities may include converting from disposable to reusable supplies or products, purchase of dedicated recycling bins, containers, carts, and other equipment, modification and/or retrofit of facilities or equipment for the specific purpose of implementing or enhancing recycling, or purchasing materials or services to provide education to increase awareness and participation in the recycling program.

ENTITY: Tarrant County

POPULATION SERVED: 3,500 employees at 19 locations

CONTACT: Robert Smajstrla
100 W. Weatherford
Fort Worth, TX 76196-0401
817/884-2578

PROJECT DESCRIPTION

Tarrant County's recycling program is an extension of their record destruction procedures. Previously these records were destroyed and landfilled with the regular trash. Beginning in August 1993, the county Clerk's Office developed a program to recycle all of the shredded waste paper as well as office waste paper from other county offices.

As a further component of the program, inmates remove and classify paper clips, rubber bands, binders and other office supplies that have been discarded by county personnel. File boxes, folders, and other materials are also recovered for reuse by county departments.

The Records Destruction and Recycling operations utilizes low-risk inmates from the county Work Release program to perform tasks from sorting to baling. Until mid-1994, operating five days a week, the inmates were processing about 15 tons of paper a month. The county was awarded a $25,000 grant in July 1994, to purchase a horizontal baler that greatly increased their operating efficiency and improved the marketability of their bales. The county is now able to offer recycling services to other local governments, further increasing the county's volumes and efficiencies. Bales produced at the county facility are now more marketable as "mill size," increasing the county's revenue per ton by approximately 50 percent.

BUDGET ITEMS

1. Supplies, such as recycling bins, printed materials
2. Equipment such as balers, compactor, pallet jack, dumpsters, or roll-off containers
3. Contractual or construction expenses for facility or site improvements
4. Contractual or "other" expenses for educational materials

MAJOR STEPS IN PROJECT

1. Evaluate waste volumes and determine recycling volumes to be generated
2. Select equipment needed to handle estimated volumes and growth
3. Organize collection and processing system
4. Conform collection and processing system to meet vendor requirements

PROJECT EFFECTIVENESS

Improved recycling increased tonnage by 14.7% and revenues per ton by approximately 50%. Between December 1993 and July 1995, Tarrant County recycled more than 363.29 tons, increasing revenues to more than $100,000.

While this revenue is considered significant, the County has not been able to determine disposal cost savings resulting from the program.

Example M. Public School Recycling (District-Wide)

Activities to implement or expand programs to reduce waste and to collect, handle, and reuse or recycle waste from within public school districts. Activities may include converting from disposable to reusable supplies or products, purchase of dedicated recycling bins, containers, carts, and other equipment, modification and/or retrofit of facilities or equipment for the specific purpose of implementing or enhancing recycling, or purchasing materials or services to provide education to increase awareness and participation in the recycling program.

ENTITY: Plano ISD

POPULATION SERVED: All schools and school-related facilities in the district (46 schools, 29,400 students, and 4,000 employees)

CONTACT: Kyle Sims, District Recycling Coordinator
6600 Alma Drive
Plano, TX 75023-2806
214/519-8282

PROJECT DESCRIPTION

Plano ISD has solid evidence that recycling saves money. In September 1991, Plano ISD began an aggressive waste diversion program to reduce their $160,000 yearly waste disposal costs. The program began by placing dumpsters for cardboard at all 46 school locations and using 90-gallon roll-out containers for white and computer paper.

In 1993, the District decided to implement a co-mingled recycling program. This means that several different items are placed in different bags but in the same container. Each classroom and office has

one container for recyclable paper and one for trash. The custodial staff empties the paper containers daily into clear plastic bags. Once these bags are full, they are placed in an 8-cubic yard recycling container located outside each facility. All cardboard boxes are broken down and placed in the same container.

Specially designed containers are located in cafeterias and teacher workrooms for aluminum can collection. The food service staff recycles all tin cans, along with #1 and #2 plastics. All aluminum, tin, and plastic containers are rinsed and placed in clear plastic bags. Once these bags are full, they are placed in the same 8-cubic yard container as the paper and cardboard. All of the recycling and solid waste containers remain locked each day.

In addition, Plano ISD participates in the "Don't Bag It" program, leaving their grass and yard trimmings on the lawn. The District also recycles aluminum cans, steel (tin) food containers and plastics from the kitchen. These materials are rinsed, put in a plastic bag, and locked in a special dumpster for weekly collection. By integrating recycling with regular clean up responsibilities, cafeteria workers hardly notice the difference between recycling and throwing everything away.

The program includes a kickoff at all schools with a training session with the school staff. The sessions are a collaborative effort between the City of Plano, Plano ISD, and the recycling processor. The students and custodial staff are responsible for taking the paper to the collection point to be picked up. Principals and teachers have the responsibility of encouraging students to recycle and keep the program moving. Plano ISD considers it important for students to take ownership of the program, which contributes to their sense of accomplishment and makes for a successful program.

BUDGET ITEMS

1. Classroom containers (specially marked 10-ream copy paper cartons may be used)
2. Dumpsters (may be furnished by contract service provider)
3. Educational materials

MAJOR STEPS IN PROJECT

1. Perform waste audit
2. Secure commitment of school administration
3. Select buyer(s) for materials
4. Determine specifications for materials
5. Designate/select service provider
6. Determine strategy for collection (include school staff and service provider)
7. Purchase containers
8. Develop educational materials
9. Conduct staff training
10. Kick off program
11. Follow up to solve problems
12. Set up a system to collect data on waste reduction and cost savings/monitor results

PROJECT EFFECTIVENESS

As a result of the program implemented in 1992, Plano ISD reduced the frequency of trash dumpster pick up from five days per week to three or four days per week, yielding an annual savings of $10,000 in the first year of the program. In 1994, each facility down-sized dumpsters from 8- to 6-cubic yards for an additional annual savings of $20,000. Between paper and cardboard alone, the school district diverts nearly 30,000 pounds of recyclables per month.

Example N. Public School Recycling (Individual School)

Activities to implement or expand programs to reduce waste and to collect, handle, and reuse or recycle waste from within public schools. Activities may include converting from disposable to reusable supplies or products, purchase of dedicated recycling bins, containers, carts, and other equipment, modification and/or retrofit of facilities or equipment for the specific purpose of implementing or enhancing recycling, or purchasing materials or services to provide education to increase awareness and participation in the recycling program.

ENTITY: Ryan High School, Denton

POPULATION SERVED: Entire school; 190 staff, 1950 students

CONTACT: Claire Gates, Teacher
Ryan High School
5101 McKinney
Denton, TX 76208
817/566-7926

PROJECT DESCRIPTION

At the beginning of the 1994-95 school year, Ryan High School made the big switch from disposable to reusable trays and bowls. The school also purchased carts to help with the collection of the dishes after use.

To make the change successful, Ryan students and staff had to learn how the new system works. A local cable television company produced an instructional video that was written and performed by students. The video has been shown on the school-wide network of TV monitors and has been well received. Careful monitoring during lunches was necessary initially to remind students of proper handling of washable dinnerware.

Some shifts in labor occurred as a result of this waste reduction program. While there was an increase in labor for the cafeteria workers, there was a significant decrease of 75 percent in work for the custodial staff in waste disposal efforts. Instead of emptying all lunchroom trash cans after each of the four 30-minute lunch periods, the custodians remove trash only after the final lunch period. This "extra time" allows them to assist in the collection and transportation of dishes and gives them time

to clean during the lunch periods.

BUDGET ITEMS

1. Washable dinnerware
2. Collection carts

MAJOR STEPS IN PROJECT

1. Select and purchase dinnerware and collection carts
2. Solicit sponsorship for instructional video
3. Plan, write and produce video
4. Train cafeteria and custodial staff
5. Train students
6. Adjust dumpsters for reduced waste
7. Set up a system to collect data on waste reduction and cost savings/monitor results

PROJECT EFFECTIVENESS

Before the switch, Ryan High needed two 8-cubic yard (CY) dumpsters emptied daily for its trash, for a total of 80-CY per week. After eliminating the majority of disposables from lunches and enhancing its recycling programs for paper, cardboard, and aluminum, the school needs only one 8-CY trash dumpster emptied daily and one 8-CY dumpster for weekly cardboard collection. These changes reduced the cost of garbage pick-up from $283 per month to $60 per month, saving $223 per month and more than $2,000 during the 9-month school year. This saving, combined with an additional $5,000, which was saved by not purchasing disposables, means that Ryan High recouped its investment and earned $1,660 in its first year.

Category 2: Local Enforcement

Category Description:

> *Projects which contribute to prevention of illegal dumping through active enforcement of illegal dumping controls at the local level.*

Example A. Enforcement Project at the City Level

Local solid waste enforcement programs create or enhance local government efforts to: (1) minimize initial response and case resolution times with respect to solid waste related citizen complaints, including complaints alleging violations of solid waste laws by solid waste transporters; (2) develop or strengthen investigative and enforcement capabilities; (3) reduce occurrences of illegal dumping including, but not limited to, the illegal disposal of solid waste, used automotive oil and/or oil filters, batteries, scrap tires, sludge, septage, and medical waste; and (4) discourage littering. Routine

surveillance or inspection of TNRCC permitted or registered sites as well as cleanup of illegal sites is not intended to be a part of enforcement support programs.

ENTITY: City of Plainview

POPULATION SERVED: 21,700

CONTACT: Dennis Harkins, Captain of Services
Police Department
City of Plainview
108 West 9th Street
Plainview, TX 89072-8209
806/296-1186 (FAX: 806/296-1125)

PROJECT DESCRIPTION

The City of Plainview has established a Solid Waste Enforcement Program using an experienced police officer to enforce solid waste disposal regulations within the city. The officer has the authority to conduct investigations, gather evidence, issue citations, file charges, testify in court, and garner compliance with the existing regulations.

The officer coordinates his activities with the local health department and sheriff's office as well as the city's code enforcement, public works and sanitation department. He is able to draw upon the expertise of the Criminal Investigation Division and the Evidence and Property Section of the police department to work up cases for prosecution. The city has an interlocal agreement with Hale County which allows police officers to patrol the unincorporated areas within one mile surrounding the city limits.

Public education activities conducted by the officer includes presentations to various civic, business, and educational groups in the area. His goal is to educate the public on the requirements for proper solid waste disposal, source reduction of waste, and encourage recycling. He works closely with "Keep Plainview Beautiful" and the local "Source Reduction Task Force" to amplify his education efforts.

BUDGET ITEMS

1. Staff time to develop enforcement program, enforce regulations, educate the public, conduct training of other officers and city staff, and provide technical assistance to the citizens and the business community as well as other cities in the region interested in establishing a local solid waste enforcement program
2. Travel related to enforcement program
3. Equipment in the first year of grant funding included: police vehicle, two-way radio for vehicle, two-way portable radio, lights and siren unit, and 35mm camera with telephoto lens

MAJOR STEPS IN PROJECT

1. Officer received training in the Litter Abatement Act, Solid Waste Disposal Act, and public speaking

2. Developed a network within the city and county organizations to coordinate enforcement efforts
3. Training of other officers to become additional "eyes and ears" to facilitate identifying illegal dumping sites and patrolling those areas for violations
4. Educate the public
5. Issue warnings
6. Issue citations
7. File charges with the most appropriate judge to ensure vigorous prosecution of violators

PROJECT EFFECTIVENESS

The local enforcement program of the City of Plainview has already proven successful. Following are results of the program for 1994:

- 11 community education activities
- 21 citations filed in court
- 123 complaints and 44 referrals processed
- 169 warnings issued
- caused 139 dump sites to be cleaned up
- acquired and uses a "trashasaurus" dinosaur mascot suit to give school programs to elementary school children

Example B. Enforcement Project at the County Level

Local solid waste enforcement programs create or enhance local government efforts to: (1) minimize initial response and case resolution times with respect to solid waste related citizen complaints, including complaints alleging violations of solid waste laws by solid waste transporters; (2) develop or strengthen investigative and enforcement capabilities; (3) reduce occurrences of illegal dumping including, but not limited to, the illegal disposal of solid waste, used automotive oil and/or oil filters, batteries, scrap tires, sludge, septage, and medical waste; and (4) discourage littering. Routine surveillance or inspection of TNRCC permitted or registered sites as well as cleanup of illegal sites is not intended to be a part of enforcement support programs.

ENTITY: Tarrant County

POPULATION SERVED: 1,770,103

CONTACT: G.K. Maenius, County Administrator
Tarrant County, Administration Building, 4th Floor
100 East Weatherford
Fort Worth, TX 76196-0609
817/884-1733 (FAX: 817/884-1702)

PROJECT DESCRIPTION

Tarrant County Refuse Enforcement Program enforces Texas laws regarding the dumping of solid waste along roadways, in empty lots, or in other isolated areas that are not designated or permitted for the disposal of such waste. The program makes the most efficient use of existing personnel in the office of the Precinct 4 Constable to patrol targeted dumpsite areas and apprehend illegal dumpers, and to use these officers to provide training and assistance to other programs throughout the state. Jurisdiction for the program is county-wide.

Personnel serving as Refuse Enforcement Program (REP) deputies are certified peace officers who are familiar with Tarrant County. They receive training in relevant solid waste laws in the Health and Safety Code and other statutes in addition to standard training required for certified peace officers.

The program has a priority of enforcing against the most serious sites and offenders first. The program also coordinates cleanup activities with the County Commissioner's Precincts. Inmate or work release labor is utilized for cleanup of some of the most serious sites identified by the program deputies.

The REP also works to educate the public on the problems of illegal dumping. To expand this effort, the County Commissioners Court has established a citizen task force to assist the Precinct 4 Constable and his staff in reaching out to appropriate business, neighborhood, environmental, and law enforcement groups. The task force works to address and develop solutions to illegal dumping issues in the area.

BUDGET ITEMS

1. Staff time of 2 full-time and 2 part-time Refuse Enforcement Officers to coordinate the enforcement program in this large county including the City of Fort Worth, which recently discontinued its dedicated illegal dumping program; reserve officers are used as necessary
2. Travel related to enforcement program
3. Equipment including: 3 vehicles, emergency lights for vehicles, video camera, two-way radio, hand-held radio, lights and siren units, desk, and computer hardware and software

MAJOR STEPS IN PROJECT

1. Program initiated by elected Constable in 1991 in response to complaints about illegal dumping from citizens in the area
2. Program expanded by training peace officers; training included special sessions sponsored by Keep Texas Beautiful which emphasizes illegal dumping and littering laws in the State of Texas and outlined current programs and practices throughout the state; officers also received training in the Health and Safety Code and other relevant statutes
3. Program improvements:
    - improve prosecution and coordination with related agencies by developing a program to reinforce the importance of solid waste enforcement with local courts and judges, and to cooperate with other law enforcement agencies and public health authorities
    - improve the record-keeping and cost effectiveness aspects of the program by developing systematic methods to track dumping-related citations, fines, program costs and other

relevant program records
- expand and improve public education and prevention efforts which support enforcement by increasing community education and implementing new methods for public education that are appropriate to this topic

PROJECT EFFECTIVENESS

The local enforcement program of Tarrant County has already proven to be successful. Following are results of the program for 1994:

- 215 citations issued
- an excess of $5,000 in fines levied against offenders
- 300 serious illegal dumpsites identified
- 18,000 pounds of waste removed
- 150 dumpsites cleared

Category 3: Household Hazardous Waste Management

Category Description:

Projects which provide a means for the collection, recycling or reuse, and proper disposal of household hazardous waste.

Example A. Temporary/Special Collection Event

Programs that involve organizing one or more centralized collections of household waste with hazardous characteristics and contracting for or managing the sorting, classifying, and packaging of household hazardous wastes for reuse or disposal. Programs should include public information/education activities to increase public awareness of less hazardous alternatives, the dangers of indiscriminate use, storage, and/or disposal of household waste with hazardous characteristics. All household hazardous waste collection activities must comply with established TNRCC regulations.

ENTITY: City of Pampa

POPULATION SERVED: 20,000

CONTACT: Rick Stone, Sanitation Superintendent
P.O. Box 2499
Pampa, TX 79066-2499
806/669-5760

PROJECT DESCRIPTION

The City of Pampa's household hazardous waste (HHW) program includes two one-day collection events. For each event, the City hires an HHW contractor, who collects, packages, prepares manifests, transports and disposes of the collected wastes. Paint, batteries, waste oil, oil filters, tires, and antifreeze are collected and recycled by community groups and businesses. An educational program is implemented through Clean Pampa, Inc., who develops and distributes educational information.

BUDGET ITEMS

1. Staff
2. Supplies
3. Contractual costs, including costs for HHW contractor for collection, packaging, and transporting of collected wastes
4. Other expenses, including educational fliers and brochures

MAJOR STEPS IN PROJECT

1. Select and hire a project coordinator
2. Develop RFPs, award contract for HHW management firm
3. Prepare and submit 90-day notifications and operational plans prior to each collection event
4. Develop and implement educational program
5. Hold collection event(s)

PROJECT EFFECTIVENESS

From the first HHW collection held in Pampa on April 22, 1995, 9,240 pounds of HHW was properly disposed of at a cost of $12,053. 130 gallons of paint, 136 batteries, 55 gallons of antifreeze, 650 oil filters, and 620 gallons of oil were recycled, servicing 156 participants. The next collection is scheduled for next spring.

Example B. Permanent Collection Station

Establishment of a permanent household hazardous waste collection and storage facility. Elements of a successful program include: identification and meetings with interested groups, planning, contracting for or operating a permanent collection station for regular collections, sorting, classifying, packaging and reusing or disposing of hazardous waste. Programs should include public information/education activities to increase awareness of the dangers of improper use, storage and/or disposal of household waste with hazardous characteristics. All household hazardous waste collection activities must comply with established TNRCC regulations.

ENTITY: City of San Antonio

POPULATION SERVED: 972,499

CONTACT: Stacy Shipley, Environmental Protection Officer
1940 Grandstand
San Antonio, TX 78238
210/522-8809

PROJECT DESCRIPTION

The City of San Antonio has built a permanent facility for the collection of household hazardous waste (HHW). The City used this site for its first collection event, held in May 1995. The next collection will be held in August at the Water Utility service center. Collections will be scheduled on Saturdays in different areas of the city throughout the year. The City will utilize its permanent facility for collections held for the Northwest quadrant as well as serving the public on an as-needed/appointment-only basis. The collection site consists of a hazardous materials storage building, a covered packaging area, waste oil tank, storage sheds and offices, surrounded by a chain link fence with gates. During collection events, the City contracts with an HHW disposal contractor to collect, package, prepare a manifest, transport and dispose of the wastes. Paint, batteries, waste oil, oil filters, tires, and antifreeze are collected and recycled by community groups and businesses.

BUDGET ITEMS

1. Supplies
2. Equipment, including the hazardous materials storage building, storage sheds, safety equipment, waste oil tank, and carts
3. Contractual costs, including educational services, and costs for HHW contractor for collection, packaging, and transporting of collected wastes
4. Other expenses, including lease for portable office building, utilities and Hazwoper training for facility personnel

MAJOR STEPS IN PROJECT

1. Select and hire a project coordinator
2. Design and construct the facility
3. Develop RFPs, award contract for HHW management firm
4. Prepare and submit 90-day notifications and operational plans prior to each collection event
5. Develop and implement the educational program
6. Hold collection event(s)

PROJECT EFFECTIVENESS

From the first HHW collection held in San Antonio in May 1995, 20,315 pounds of HHW was properly disposed of at a cost of $81,930. 44,220 gallons of paint, 200 batteries, 110 gallons of antifreeze, 220 oil filters, and 2,430 gallons of oil were recycled, servicing 1,025 participants. On August 12, San Antonio held its second HHW collection, at which 1,038 participants brought in 5,779 pounds of HHW, disposed of at a cost of $52,253. In addition, 51,360 gallons of paint, 257 batteries, 200 gallons of antifreeze, 617 oil filters, and 2,000 gallons of oil were recycled.

Category 4: Local Solid Waste Management Plans and Technical Studies

Category Description:

Projects which include the collection of pertinent data, analysis of issues and needs, evaluation of alternative solutions, public input, and recommended actions, to assist in making solid waste management decisions at the local level.

Example A. Local Solid Waste Management Plan

Local solid waste management plans pertain to any geographic area smaller than a region (i.e., a community or group of communities, a county or group of counties, or a designated subregion of a regional plan). As with regional plans, local plans must conform with requirements set forth in Subchapter O of Municipal Solid Waste Regulations, as well as content and format guidelines established by TNRCC. Also, as with regional plans, local plans are required to address both immediate and long-range solid waste management needs. However, unlike regional plans, local solid waste management plans are not required, and are undertaken as a local initiative.

Local plans should certainly draw upon the information in applicable regional plans, but they should examine local issues and needs more closely, and provide recommended actions aimed specifically at local plan participants. Since regional plans provide a ready basis for local plan development, the local planning process is not expected to take as much time to complete; nonetheless, a formal and deliberate process is still involved, and local plans can be expected to take at least a full year, if not longer, to complete. The local planning process involves continued public input, and review and final approval by TNRCC. As with regional plans, local plans are intended to be guidance documents, and are not regulatory or obligatory in nature; they are designed to provide important information and recommendations, and to facilitate solid waste management decisions by local governments.

ENTITY: Gold-Cap Planning Area

POPULATION SERVED: Approximately 37,000 in a four-county area

CONTACT: E.T. Gibson, City Manager
City of Gonzales
P.O. Box 547
Gonzales, TX 78629
210/672-2815 (FAX: 210/672-2813)

Rudy Ruiz, President
Community Development Management Co.
703 S. Blanco
Lockhart, TX 78644
512/398-7129 (FAX: 512/376-4857)

PROJECT DESCRIPTION

The City of Gonzales, acting as lead entity on behalf of several communities in Gonzales, DeWitt, Lavaca, and Caldwell counties, received a grant from TNRCC to develop a local solid waste management plan (the plan participants also provided 50 percent matching funds). Representatives of the participating communities formed the "Gold-Cap" Planning Area Advisory Committee to guide development of the plan (the name "Gold-Cap" was selected since the planning area straddles the boundary between the Golden Crescent Regional Planning Commission and the Capital Area Planning Council, and since the local plan would need to be consistent with both of the applicable regional plans). The communities participating in the plan are all fairly small in size, and the planning area is predominantly rural in nature. The driving force behind development of the plan was a strong desire of the participants to retain local control and self-sufficiency in solid waste management. The committee employed the consultant services of Community Development Management Co. to assist in development of the local plan. As required by regulation, public input played a continuing role in the development of the plan.

BUDGET ITEMS

1. Matching funds (50 percent), provided by plan participants on a formula basis
2. Consultant services
3. Copying and postage

MAJOR STEPS IN PROJECT

1. Form advisory committee to guide plan development
2. Secure consultant services
3. Layout basic processes for developing plan, in accordance with regulatory requirements
4. Hold routine advisory committee meetings, open to the public, to discuss various issues and review plan drafts
5. Redraft plan elements in response to input from advisory committee, applicable COGs, and TNRCC
6. Prepare final plan and conduct formal public hearing
7. Submit final plan to TNRCC for approval

PROJECT EFFECTIVENESS

Work on the plan began in late 1993, and the plan was submitted to TNRCC for approval in late 1994. Formal approval of the plan by TNRCC is still pending, but is expected soon. The plan will help guide decisions on solid waste management in the Gold-Cap area. Further, since the participating communities have demonstrated their commitment to long-term solid waste management by choosing to go through a formal local planning process, they will stand to be more competitive in seeking implementation grants.

Example B. Technical Study

Technical studies may deal with a number of different solid waste management practices, or focus on one particular topic, and they may be regional or local in scope. Technical studies usually fall into one of the following three categories: screening studies, feasibility studies, or implementation studies. Screening studies consider the solid waste management needs for the subject area, and summarize the various management practices or technologies available which could be employed to address those needs. Screening studies normally conclude by narrowing the field of alternatives down to just one or a few that seem to be most appropriate for the subject area, and recommend those for further evaluation. Feasibility studies do just that, particularly by providing much more detail on things such as total costs, possible liabilities and public concerns, and physical and regulatory restrictions. Very often, technical studies combine the functions of screening and feasibility studies. Implementation studies are conducted after a particular solid waste management practice or technology has been determined to be feasible and desirable, and the parties involved want more details on what it would take to actually implement a project, such as legal and institutional arrangements, specific site selection and facility design, permitting requirements, and financing sources.

An important thing to remember about conducting one of these types of studies is that the results may not always be positive, but at least it can save the participants time and money in the long run.

Any technical studies undertaken should be consistent with the goals, objectives, and recommendations of applicable regional solid waste management plans. Technical studies must be developed in accordance with content and format guidelines established by TNRCC. An appropriate level of public input is encouraged by TNRCC during study development. TNRCC review of technical studies is required, although there is no formal approval process. In most cases, technical studies take at least a full year, if not longer, to complete.

ENTITY: Alamo Area Council of Governments

POPULATION SERVED: Approximately 75,000 in a three-county area

CONTACT: Georgia Zannaras, Ph.D., Solid Waste Coordinator
Alamo Area Council of Governments
118 Broadway, Suite 400
San Antonio, TX 78205-1999
210/225-5201 (FAX: 210/225-5937)

Greg Lewis, Senior Project Manager
RMT/Jones & Neuse, Inc.
912 Capital of Texas Hwy., Suite 300
Austin, TX 78746-5210
512/327-9840 (FAX: 512/327-6163)

PROJECT DESCRIPTION

The Alamo Area Council of Governments (AACOG) received a grant from TNRCC to conduct a feasibility study for Atascosa, Frio, and Medina counties, which comprise a designated subregion in the adopted regional solid waste management plan. The study addressed the feasibility of establishing an integrated solid waste management facility in the three-county area. The facility would center around a landfill providing at least 30 years of disposal capacity, but would also provide recycling and composting services to citizens in the area. Development of the study was driven by a strong desire of the local governments in the area to retain local control and self-sufficiency in solid waste management. The three counties involved, through interlocal agreements, formed the AFM Tri-County Solid Waste Management Agency to better focus on their mutual needs, and worked with AACOG to guide development of the study. The consultant services of Jones & Neuse, Inc. were employed to assist in development of the study.

The results of the study were that such a facility would be feasible but, due to economies of scale, only if a significant level of additional waste flow was secured from San Antonio or a private company. The study helped to spell out the options of the three counties much more clearly.

BUDGET ITEMS

1. COG staff time
2. In-kind services of participating local governments
3. Consultant services
4. Copying and postage

MAJOR STEPS IN PROJECT

1. Form oversight committee to work with COG to guide study development
2. Layout basic processes and objectives involved in the study
3. Secure consultant services
4. Hold routine committee meetings, open to the public, to discuss various issues and review study drafts
5. Redraft study elements in response to input from advisory committee, COG, and TNRCC
6. Prepare final study and conduct formal public hearing
7. Submit final study to TNRCC for final review

PROJECT EFFECTIVENESS

Work on the study began in early 1993; it was completed and submitted to TNRCC for final review in early 1994. There is no approval process for such studies, but TNRCC accepted the study, finding it to be thorough, technically plausible, and consistent with the regional solid waste management plan. Since then, AFM has negotiated with private companies as well as the City of San Antonio, but has not yet been able to reach agreement on an arrangement that would give the three counties the level of control they desire. The study remains an influential factor in the consideration of solid waste management decisions affecting the area.

Category 5: Other Solid Waste Management Projects

Category Description:

Solid waste management projects which do not readily fall under any of the above categories, but limited to the following types of projects:

- *Installation of scales at landfills*
- *Citizens collection stations*
- *Special clean-up events*
- *Educational and training projects*

Example A. Lake and River Clean-up Event

Lake and river clean-up events are becoming more numerous across the state as levels of public awareness over litter and illegal dumping problems increase. Debris along lakes and rivers is not only unsightly, it can contribute to the deterioration of water quality and aquatic and riparian habitat. Securing a large number of volunteers is pivotal to the success of most special clean-up events and, in many cases, corporate donations are necessary to obtain various materials. Therefore, significant promotional efforts may be involved. Very often, special clean-up events are part of larger events, such as Earth Day. In addition to removing large quantities of debris, such special clean-up events may also involve the recycling of various materials which are collected. Lake and river clean-up events must be coordinated with TNRCC's Clean-up Program.

ENTITY: Houston-Galveston Area Council

POPULATION SERVED: 2,500,000

CONTACT: Lily Wells, Environmental Planner
Houston-Galveston Area Council
3555 Timmons
Houston, TX 77227
713/993-4537

PROJECT DESCRIPTION

The Houston-Galveston Area Council chairs the River, Lakes, Bays 'n Bayous Trash Bash Committee, which organizes a special clean-up including the San Jacinto River, Lake Conroe, Lake Houston, Galveston Bay, Armand Bayou, Dickinson Bayou, and Buffalo Bayou. Each of the clean-up locations has a site coordinator that organizes an event which includes a 2½ hour clean-up and a "Trash Bash." The Trash Bash consists of a thank-you luncheon for volunteers, entertainment, educational booths and appreciation items for volunteers. The clean-up details include: waste disposal, recycling, volunteer registration, volunteer transporation, safety guidelines and securing equipment.

The project also includes an educational "What is a Watershed?" art and essay contest for third and seventh graders in the nine counties surrounding the San Jacinto River Basin. Approximately 7,000 students entered the 1995 contest with first, second and third place winners for each contest at each Trash Bash location. For 1996, 3,500 teachers will receive the contest entry information.

The event is largely funded by Houston-area Clean Industries members who give in-kind supplies and monetary donations. These sponsors also serve on the Trash Bash Committee or assist with the site coordination. Other committee members include: Galveston Bay Program, Gulf Coast Waste Disposal Authority, Galveston Bay Foundation, Texas Parks & Wildlife Department, and local governmental agencies.

BUDGET ITEMS

1. Staff expense to coordinate event
2. Event related travel
3. Printing and postage
4. Advertising
5. Signage
6. Equipment (purchase or rental)
7. Protective equipment for volunteers

Note: ***Other budget items include expenses which cannot be covered by grant funding under this program, such as waste disposal, refreshments, entertainment, and prize money.***

MAJOR STEPS IN PROJECT

1. Select clean-up locations
2. Recruit site coordinator and committee members
3. Solicit sponsors
4. Print and distribute contest materials
5. Recruit and instruct volunteers
6. Print and distribute promotional materials
7. Clean-up and Trash Bash coordination
8. Distribute clean-up supplies
9. Hold event, and document participation and materials collected
10. Distribute appreciation certificates and thank-you letters

PROJECT EFFECTIVENESS

In 1994, 4,500 volunteers removed 150 tons of debris from 6 locations. In 1995, 5,000 volunteers removed 132 tons of debris from 7 locations. The next event will be held at 9 locations on Saturday, March 30, 1996.

Example B. Texas Country Clean-up Event

"Texas Country Clean-up" events were started by TNRCC in 1994. Texas Country Clean-up events are designed to collect **empty, properly rinsed** pesticide containers, batteries, tires, oil, and oil filters in rural areas which have historically had limited options in handling these types of wastes. Agricultural or household chemicals may **not** be accepted at Texas Country Clean-up events. However, Texas Country Clean-up events are often held in conjunction with special agricultural chemical collection events, which are separately funded under other programs. A major focus of Texas Country Clean-up events is to recycle as many of the materials collected as possible. Texas Country Clean-up events must be coordinated with TNRCC's Clean-up Program.

ENTITY: Atascosa County

POPULATION SERVED: 30,533

CONTACT: Brent Batchelor, Atascosa County Extension Agent
1003 Oak
Jourdanton, TX 78026
210/769-3066

PROJECT DESCRIPTION

With the assistance of TNRCC's Clean-Up Program, a Texas Country Clean-up event was planned in Atascosa County. The clean-up event was held on April 26, 1995, at the Atascosa County Livestock Center. Citizens in the predominantly rural area were encouraged to bring appropriate materials to the center for collection and proper handling.

BUDGET ITMES

1. Staff expenses for project development and scheduling
2. Related travel expenses
3. Personnel training
4. Advertising
5. Printing and postage
6. Protective gear

Note: Other budget items include expenses which cannot be covered by grant funding under this program, such as waste disposal and refreshments.

MAJOR STEPS IN PROJECT

1. Select site for event
2. Solicit and coordinate with recyclers for collection day activities

3. Solicit sponsors
4. Recruit and instruct volunteers
5. Hold event, and document participation and materials collected
6. Distribute appreciation certificates and thank-you letters

PROJECT EFFECTIVENESS

For the one-day event, there were 38 participants, and 796 empty pesticide containers, 1,054 tires, 2,200 gallons of used oil, 500 oil filters, and 184 batteries were collected for recycling or proper handling.

Example C. Training Project

Training activities may be general or specific in nature, and may be aimed at broad or defined audiences. In any event, to achieve optimum participation, training should be offered in issues or topics which have not previously, or which have not for some time, been the subject of training efforts in the region or local area. Depending on available funding, training activities can include guest speakers, manuals and give-away materials, and exhibits or demonstrations. A very effective type of training activity is one focused on "training the trainer," such as Master Composter training programs, which qualify their trainees to subsequently go out and conduct composting training activities themselves, thus reaching a much larger audience ultimately.

ENTITY: Capital Area Planning Council

POPULATION SERVED: Representatives of local governments in a ten-county region

CONTACT: Donald Stence, Director of Comprehensive Planning
Capital Area Planning Council
2520 IH 35 South, Suite 100
Austin, TX 78704
512/443-7653 (FAX: 512/443-7658)

PROJECT DESCRIPTION

With grant funding from TNRCC, CAPCO developed a "Waste Master" training program as part of a comprehensive effort to implement its recently adopted regional solid waste management plan. Local governments in the CAPCO region were asked to designate appropriate representatives to receive concentrated training from CAPCO in a variety of solid waste management practices, with the aim of the trainees being able to go back to their local areas and conduct similar training themselves, hence the term "Waste Master." CAPCO assembled and compiled a variety of materials for training modules, arranged for technical speakers, and conducted two training sessions within the ten-county region during 1994.

BUDGET ITEMS

1. COG staff time
2. Copying and postage
3. Assembly of training modules

MAJOR STEPS IN PROJECT

1. Identify solid waste management practices on which to focus training
2. Make preliminary announcements of availability of training to local governments
3. Assemble various materials on selected solid waste management practices
4. Compile training modules
5. Schedule training sessions and make formal announcements to local governments
6. Arrange for meeting facilities
7. Secure technical speakers on various topics
8. Finalize agendas
9. Conduct training sessions

PROJECT EFFECTIVENESS

In the two training sessions conducted in the ten-county region by CAPCO in 1994, a total of 51 local government representatives were trained as "Waste Masters." Subsequently, Travis County representatives trained through the program conducted a training session in which 30 individuals were trained.